10th CHEMISTRY

NOTESPK Test Series

Chapter Wise, Quarter Wise, Half Book, Full Book Test Series

Chemistry

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English Medium Tests

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NOTESPK Test Series

VERSATILE

CLASS TESTS

CHEMISTRY

CLASS 10th

English Medium

Chapter Wise, Quarter Wise, Half Book, Full Book Tests

Courtesy: Versatile Publishers,

Faisalabad

Key to Chemistry (English Medium)

Test # 1	1(d)	2(c)	3(c)	4(a)	5(d)	6(b)	7(a)	8(c)	9(c)	10(d)	11(d)	12(d)
Test # 2	1(d)	2(d)	3(c)	4(a)	5(c)	6(a)	7(a)	8(c)	9(d)	10(d)	11(d)	12(a)
Test # 3	1(d)	2(d)	3(a)	4(c)	5(b)	6(b)	7(d)	8(c)	9(c)	10(d)	11(d)	12(a)
Test # 4	1(d)	2(a)	3(d)	4(c)	5(b)	6(a)	7(b)	8(d)	9(a)	10(c)	11(c)	12(a)
Test # 5	1(a)	2(b)	3(a)	4(c)	5(b)	6(a)	7(b)	8(d)	9(b)	10(c)	11(c)	12(c)
Test # 6	1(c)	2(b)	3(a)	4(c)	5(c)	6(c)	7(b)	8(c)	9(a)	10(d)	11(b)	12(c)
Test # 7	1(b)	2(c)	3(d)	4(b)	5(c)	6(b)	7(c)	8(a)	9(b)	10(a)	11(c)	12(a)
Test # 8	1(b)	2(c)	3(d)	4(a)	5(c)	6(a)	7(a)	8(b)	9(a)	10(c)	11(c)	12(c)
Test # 9	1(b)	2(c)	3(b)	4(b)	5(d)	6(c)	7(d)	8(a)	9(a)	10(a)	11(a)	12(b)
Test # 10	1(b)	2(a)	3(a)	4(d)	5(d)	6(b)	7(c)	8(c)	9(d)	10(a)	11(c)	12(c)
Test # 11	1(b)	2(c)	3(d)	4(b)	5(d)	6(a)	7(a)	8(a)	9(d)	10(b)	11(b)	12(a)
Test # 12	1(c)	2(c)	3(b)	4(b)	5(b)	6(a)	7(b)	8(c)	9(a)	10(d)	11(d)	12(a)
Test # 13	1(d)	2(d)	3(b)	4(d)	5(c)	6(b)	7(b)	8(a)	9(b)	10(b)	11(a)	12(d)
Test # 14	1(b)	2(c)	3(d)	4(d)	5(d)	6(c)	7(d)	8(b)	9(d)	10(a)	11(b)	12(a)
Test # 15	1(c)	2(a)	3(d)	4(c)	5(a)	6(a)	7(c)	8(c)	9(b)	10(c)	11(c)	12(b)
Test # 16	1(a)	2(c)	3(c)	4(b)	5(b)	6(c)	7(b)	8(c)	9(c)	10(c)	11(d)	12(a)
Test # 17	1(a)	2(b)	3(a)	4(a)	5(c)	6(b)	7(a)	8(b)	9(a)	10(a)	11(a)	12(b)
Test # 18	1(c)	2(a)	3(b)	4(d)	5(c)	6(a)	7(a)	8(b)	9(c)	10(c)	11(a)	12(c)
Test # 19	1(a)	2(b)	3(d)	4(a)	5(d)	6(b)	7(b)	8(a)	9(b)	10(c)	11(b)	12(a)
Test # 20	1(d)	2(b)	3(d)	4(a)	5(a)	6(d)	7(c)	8(d)	9(a)	10(b)	11(a)	12(c)
Test # 21	1(d)	2(d)	3(a)	4(c)	5(b)	6(c)	7(d)	8(b)	9(a)	10(c)	11(b)	12(d)
Test # 22	1(a)	2(b)	3(a)	4(c)	5(b)	6(a)	7(a)	8(b)	9(d)	10(c)	11(b)	12(a)
Test # 23	1(a)	2(c)	3(c)	4(a)	5(b)	6(a)	7(c)	8(c)	9(b)	10(b)	11(c)	12(c)
Test # 24	1(a)	2(d)	3(d)	4(a)	5(a)	6(d)	7(c)	8(d)	9(a)	10(c)	11(a)	12(d)
Test # 25	1(b)	2(a)	3(d)	4(c)	5(a)	6(c)	7(b)	8(c)	9(d)	10(c)	11(c)	12(b)
Test # 26	1(a)	2(c)	3(d)	4(c)	5(a)	6(d)	7(c)	8(b)	9(b)	10(c)	11(d)	12(b)
Test # 27	1(a)	2(a)	3(d)	4(d)	5(d)	6(a)	7(b)	8(d)	9(a)	10(c)	11(a)	12(a)
Test # 28	1(b)	2(a)	3(c)	4(b)	5(b)	6(b)	7(b)	8(a)	9(d)	10(c)	11(c)	12(b)

Test # 1	Chapter # 9	Chemical Equilibrium	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) When the magnitude of K_c is very small it indicates:

(a) equilibrium will never establish (b) all reactants will be converted to products
(c) reaction will go to completion (d) the amount of products is negligible

(ii) Reactions which have comparable amounts of reactants and products at equilibrium state have:

(a) very small K_c value (b) very large K_c value (c) moderate K_c value (d) none of these

(iii) At dynamic equilibrium:

(a) the reaction stops to proceed (b) the amounts of reactants and products are equal
(c) the speeds of the forward and reverse reactions and equal
(d) the reaction can no longer be reversed

(iv) In an irreversible reaction dynamic equilibrium:

(a) never establishes (b) establishes before the completion of reaction
(c) establishes after the completion of reaction (d) establishes readily

(v) A reverse reaction is one that:

(a) which proceeds from left to right (b) in which reactants react to form products
(c) which slows down gradually (d) which speeds up gradually

(vi) Nitrogen and hydrogen were reacted together to make ammonia $N_2 + 3H_2 \rightleftharpoons 2NH_3$ $K_c = 2.86 mol^{-2} dm^6$

(a) NH_3 only (b) N_2H_2 and NH_3 (c) N_2 and H_2 only (d) H_2 only

(vii) For a reaction between PCl_3 and Cl_2 to form PCl_5, the units of K_c are:

(a) $mol\ dm^{-3}$ (b) $mol^{-1}\ dm^{-3}$ (c) $mol^{-1}\ dm^{3}$ (d) $mol\ dm^{3}$

(viii) At equilibrium state the are possibilities:

(a) 1 (b) 2 (c) 3 (d) 4

(ix) The colour of lodine is:

(a) Black (b) Yellow (c) Purple (d) Green

(x) The colour of HI is:

(a) Orange (b) Purple (c) Red (d) Colorless

(xi) For reaction between H_2 and I_2 to form 2HI the units of K_c are:

(a) $mole\ dm^{3}$ (b) $mole^{-1} dm^{-3}$ (c) $mole\ dm^{3}$ (d) No unit

(xii) In the beginning the rate of reverse reaction is:

(a) Negligible (b) Very fast (c) Moderate (d) Slow

✂--

2- Write short answers of the following questions. (18)

(i) Write expression for the equlibrium constant for the reaction $N_2 + 3H_2 \rightleftharpoons 2NH_3$

(ii) Write equlibrium canstant expression for the reaction $H_2 + I_2 \rightleftharpoons 2HI$

(iii) Which two generalizations can be made about direction of chemical reaction?

(iv) Write down the characteristics of a reversible reaction.

(v) Write down two macroscopic characteristics of a dynamic equilibrium.

(vi) What is equilibrium constant?

(vii) What are ir-reversible reactions?

(viii) If reaction quotient Qc of a reaction is more than Kc. What will be the direction of the reaction.

(ix) What is meant by forward reaction? Giveone example.

Test # 2	Chapter # 9	Chemical Equilibrium	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Units of K_c in the reaction $H_2 + I_2 \rightleftharpoons 2HI$ are.
(a) $mol\ dm^{3}$ (b) $-mol^{1}dm^{3}$ (c) $mol^2 dm^{3}$ (d) No units

(ii) The unit of molar concentration is:
(a) $mol\ dm^{-2}$ (b) $mol\ dm^{-1}$ (c) $mol\ dm^{3}$ (d) $mol\ dm^{-3}$

(iii) If $Q_c = K_c$ the reaction goes in:
(a) Forward (b) Reverse (c) At equilibrium state (d) None

(iv) The value of K_c depends only on:
(a) Temperature (b) Initial concentration (c) Both A & B (d) None of these

(v) K_C is always equal to:
(a) $\frac{R_f}{R_r}$ (b) $\frac{K_r}{K_f}$ (c) $\frac{K_f}{K_r}$ (d) $\frac{R_r}{R_f}$

(vi) For which reaction K_f is the rate constant?
(a) Forward reaction (b) Backward reaction (c) Upward reaction (d) Downward reaction

(vii) The characteristics of reversible reactions are the following except:
(a) products never recombine to form reactants (b) they never complete
(c) they proceed in both ways
(d) the have a double arrow between reactants and products

(viii) In the lime kiln, the reaction $CaCO_{3(s)} \longrightarrow CaO_{(s)} + CO_{2(g)}$ goes to completion because:
(a) of high temperature (b) CaO is more stable than $CaCO_3$
(c) CO_2 escapes continuously (d) CaO is not dissociated

(ix) For the reaction, $2A_{(g)} + B_{(g)} \rightleftharpoons 3C_{(g)}$
(a) $\frac{[2A][B]}{[3C]}$ (b) $\frac{[A]^2[B]}{[C]^3}$ (c) $\frac{[3C]}{[2A][B]}$ (d) $\frac{[C]^3}{[A]^2[B]}$

(x) When a system is at equilibrium states:
(a) the concentration of reactants and products becomes equal
(b) the opposing reactions (forward and reverse) stop.
(c) the rate of the reverse reaction becomes very low.
(d) the rates of the forward and reverse reactions become equal

(xi) Which one of the following statement is not correct about active mass?
(a) rate of reaction is directly proportional to active mass
(b) active mass is taken in molar concentration (c) active mass is represented by square brackets
(d) active mass means total mass of substances

(xii) When the magnitudeof K_c is very large it indicates:
(a) reaction mixture consists of almost all products
(b) reaction mixture has almost all reactants (c) reaction has not gone to completion
(d) reaction mixture has negligible products

✂---

2- Write short answers of the following questions. (18)

(i) Define equilibrium state.
(ii) Write down two characteristics of reverse reaction.
(iii) What are numerator and denominator?
(iv) Write two chemicals name which are formed by oxygen.
(v) What is combustion process? Give an example.
(vi) Give importance of equilibrium constant.
(vii) Write equation of forward reaction between hydrogen and iodine.
(viii) Define Law of Mass Action.
(ix) Describe the difference between forward reaction and reverse reaction.

Test # 3	Chapter # 10	Acids, Bases and Salts	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Dilute acids react with carbonates to produce the given products except

(a) salt (b) water (c) carbon dioxide (d) hydrogens

(ii) In the preparation of insoluble salts, which one of the facts is incorrect?

(a) two soluble salts are mixed (b) two soluble salts are produced
(c) one of the salts produced is insoluble (d) both of the salts produced are insoluble

(iii) A reaction between an acid and a base produces:

(a) salt and water (b) salt and gas (c) salt and acid (d) salt and a base

(iv) The conjugate acid of HPO_4^{2-} is:

(a) PO_4^3 (b) $H_2PO_4^2$ (c) H_2PO_4 (d) H_3PO_4

(v) What is the pOH of a 0.02M $Ca(OH)_2$?

(a) 1.698 (b) 1.397 (c) 12.31 (d) 12.61

(vi) Which one of the following species is not amphoteric?

(a) H_2O (b) NH_3 (c) HCO_3 (d) SO_4^2

(vii) The product of Lewis acid-base reaction is called adduct. The bond between the adduct specie is:

(a) ionic (b) covalent (c) metallic (d) coordinate covalent

(viii) The water of crystallization is responsible for the:

(a) melting points of crystals (b) boiling points of crystals
(c) shapes of crystals (d) transition point of crystals

(ix) You want to dry a gas which one of the following salt you will use:

(a) $CaCl_2$ (b) NaCl (c) CaO (d) Na_2SiO_3

(x) Ferric hydroxide $(Fe(OH)_3)$ is precipitated out of solution when aqueous sodium hydroxide solution is added to ferric chloride $(FeCl_3)$ $FeCl_{3(aq)} + 3NaOH_{(aq)} \longrightarrow Fe(OH)_{3(s)} + 3NaCl_{(aq)}$ Colour of the precipitate is:

(a) white (b) blue (c) dirty green (d) brown

(xi) Which ion is the conjugate base of sulphuric acid?

(a) SO_3^2 (b) S^2 (c) HSO_3 (d) HSO_4

(xii) Which one of the following is a Lewis base?

(a) NH_3 (b) BF_3 (c) H^+ (d) $AlCl_3$

2- Write short answers of the following questions. (18)

(i) Define hyper acidity.
(ii) What are amphoteric compounds? Give two examples.
(iii) Write down the names of two mineral acids.
(iv) Write down two uses of pH.
(v) Describe two characteristics of salts.
(vi) How can we measure PH of a solution?
(vii) Why pure water is not a strong electrolyte?
(viii) What are salts? Give two examples.
(ix) Write names of any two methods of preparation of salts.

Test # 4	Chapter # 10	Acids, Bases and Salts	Time: 30 Min

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) According to the Lewis concept, acid is a substance which an:
(a) donate a proton (b) donate a pair of electron
(c) accept a proton (d) accept a pair of electron

(ii) Given $K_w = [H^+][OH^-] = 1.0 \times 10^{-14}$ at 25^oC
(a) $1 \times 10^{-7} mol\ dm^{-3}$ (b) $1 \times 10^{7} mol\ dm^{-3}$ (c) $1 \times 10^{-14} mol\ dm^{-3}$ (d) $1 \times 10^{14} mol\ dm^{-3}$

(iii) $Ca(OCl)Cl$ is an example of:
(a) Complex salts (b) Doulbe salts (c) Normal salts (d) Mixed salts

(iv) The sum of the pH and pOH at 25^oC is:
(a) 7 (b) 12 (c) 14 (d) 16

(v) Which gas is evolved when carbonates react with dilute acids?
(a) H_2 (b) CO_2 (c) NO_2 (d) N_2

(vi) A reaction between acid and base produces:
(a) Salt and Water (b) Salt and gas (c) Salt and acid (d) Salt and base

(vii) A base is a substance which neutralizes an acid. Which of substances is not a base?
(a) aqueous ammonia (b) sodium chloride (c) sodium carbonate (d) calcium oxide

(viii) Lewis acid-base concept have the following characteristics except:
(a) formation of an adduct (b) formation of a co-ordinance covalent bond
(c) donation and acceptance of an electron pair (d) donation and acceptance of a proton

(ix) Acetic acid is used for:
(a) flavouring food (b) making explosive (c) etching designs (d) cleaning metals

(x) A salt is not composed of:
(a) a metallic cation (b) non-metallic anion
(c) an anion of a base (d) an anion of an acid

(xi) If a liquid has a pH of 7 then it must:
(a) be a colourless and odourless liquid (b) freeze at 0^oC and boils at 100^oC
(c) be neutral (d) be a solution containing water

(xii) A salt always:
(a) contains ions (b) contains water of crystallization
(c) dissolves in water (d) forms crystals which conduct electricity

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2- Write short answers of the following questions. (18)

(i) Define acids and bases. Give examples.
(ii) Find out acids the pH and POH of 0.001M solution of KOH.
(iii) Write down the conjugate bases of the following: (a) HS^- (b) H_3O^+
(iv) Write uses of sulphuric acid and hydrocholoric and acid.
(v) What is neutralization?
(vi) Write any four uses of bases.
(vii) Write down the uses of sodium hydroxide and calcium hydroxide.
(viii) Define pH. What is the pH of pure water?
(ix) Write down the names of two natural acids and their sources.

Test # 5	Chapter # 11	Organic Chemistry	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Which one of the following does not contain starch:

(a) sugar cane (b) maize (c) barley (d) potatoes

(ii) Petroleum is refined by:

(a) destructive distillation (b) fractional distillation

(c) simple distillation (d) dry distillation

(iii) In laboratory urea was prepared by:

(a) Wholer (b) Rutherford (c) Berzellius (d) Dalton

(iv) General formula of alkyl radical is:

(a) C_nH_{2n+2} (b) C_nH_{2n-2} (c) C_nH_{2n+1} (d) C_nH_{2n}

(v) Identify which one of the following compounds is a ketone:

(a) $(CH_3)_2CHOH$ (b) $(CH_3)_2CO$ (c) $(CH_3)_2NH$ (d) $(CH_3)_2CHCl$

(vi) The functional group - COOH is found in:

(a) carboxylic acid (b) aldehydes (c) alcohols (d) esters

(vii) Which one of the following statements is not true about fossil fuels?

(a) They all contain carbon (b) they are renewable

(c) they produce pollutants when burnt (d) they cause acid rain

(viii) Which one of the following is the hardness coal?

(a) peat (b) lignite (c) bituminous (d) anthracite

(ix) In which of the following groups, oxygen is attached on both sides with carbon atoms?

(a) ketone (b) ether (c) aldehyde (d) ester

(x) Carbonization process is the conversion of:

(a) coal into coal gas (b) coal into wood (c) wood into coal (d) wood into coal tar

(xi) Coal gas is a mixture of:

(a) $CO\ and\ CH_4$ (b) CO, CH_4, CO_2 (c) CO, CH_4, H_2 (d) $CO, H_2 and CO_2$

(xii) Which one of the following is a synthetic fibre?

(a) cotton (b) wool (c) nylon (d) silk

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2- Write short answers of the following questions. (18)

(i) What is Functional Group?

(ii) What is meant by catenation?

(iii) How organic compounds can be used as food?

(iv) Define hydrogenation. Give an example.

(v) Write down two uses of organic compounds.

(vi) What is an ester group? Write down the formula of ethyl acetate.

(vii) Why carbon shows catenation but silicon does not.

(viii) What are heterocyclic compounds. Give two examples.

(ix) What are organic compounds? Give two examples.

Test # 6	Chapter # 11	Organic Chemistry	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Which one of the following is not a fossil fuel?

(a) coal (b) natural gas (c) biogas (d) petroleum

(ii) Which one of the following does not contain protein:

(a) pulses (b) potatoes (c) beans (d) eggs

(iii) Conversion of dead plants into coal by the action of bacteria and heat is called:

(a) carbonization (b) catenation (c) hydrogenation (d) cracking

(iv) Which one of the following compounds is an aldehyde?

(a) CH_3-CH_2-OH (b) CH_3-COOH (c) CH_3CHO (d) CH_3COCH_3

(v) Formula of acetaldehyde is:

(a) CH_3-CH_2OH (b) $CH_3-\overset{O}{\overset{\|}{C}}-OH$ (c) $CH_3-\overset{O}{\overset{\|}{C}}-H$ (d) $H-\overset{O}{\overset{\|}{C}}-H$

(vi) General formula of Alkyl redical is:

(a) C_nH_{2n+2} (b) C_nH_{2n-2} (c) C_nH_{2n+1} (d) C_nH_{2n}

(vii) The ability of carbon atoms to form chains is called:

(a) isomerism (b) catenation (c) resonance (d) condensation

(viii) Coal having 90% carbon contents is called:

(a) peat (b) lignite (c) anthracite (d) bituminous

(ix) Main component of natural gas is:

(a) methane (b) propane (c) butane (d) propene

(x) The strong heating of coal is retorts in the absence of air is called:

(a) fractional distillation (b) sublimation

(c) roasting (d) destructive distillation

(xi) Pitch is black residue of:

(a) coke (b) coal tar (c) coal (d) coal gas

(xii) Natural gas is 85% methane. It is used to make the following except:

(a) carbon black (b) coke (c) coal tar (d) coal gas

✂---

2- Write short answers of the following questions. (18)

(i) Define aromatic organic compounds. Give one examples.

(ii) Differentiate between branched chain and straight chain compounds.

(iii) What is structural formula? Give one example.

(iv) What is dot and cross formula? Give one example.

(v) Differentiate between molecular and structural formulae.

(vi) What is meant by isomerism? Give an example.

(vii) Write condensed formula of any two hydro carbons.

(viii) What are cyclic and acyclic compounds?

(ix) What is Closed Chain? Write the name of its types.

Test # 7	Chapter # 12	Hydrocarbons	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Dehydrohalogenation takes place in the presence of:

(a) NaOH aqueous (b) alcoholic KOH (c) aqueous KOH (d) alcoholic NaOH

(ii) Oxidation of ethene with $KMnO_4$ produces:

(a) Oxalic acid (b) glyoxal (c) ethane glycol (d) propene glycol

(iii) Which one of these is a saturated hydrocarbon?

(a) C_2H_4 (b) C_3H_6 (c) C_4H_8 (d) C_5H_{12}

(iv) A hydrocarbon has molecular formula C_8H_{14}. What is the molecular formula of the next member of the same homologous series?

(a) C_9H_{18} (b) C_9H_{16} (c) C_9H_{20} (d) C_9H_{12}

(v) What is the molecular formula for the eighth alkane member, octane, which is found in petrol?

(a) C_8H_8 (b) C_8H_{16} (c) C_8H_{18} (d) C_8H_{20}

(vi) One of the hydrocarbons reacts with one mole of hydrogen to form a saturated hydrocarbon. What formula of the X?

(a) C_3H_8 (b) C_6H_{12} (c) C_4H_{10} (d) C_7H_{16}

(vii) Dehydration of alcohols can be carried out with:

(a) NaOH (b) KOH (c) H_2SO_4 (d) HCl

(viii) The end product of oxidation of acetylene is:

(a) oxalic acid (b) glycol (c) glyoxal (d) none of these

(ix) Dehalogenation of tetrahalides produces acetylene. This reaction takes place in the presence of:

(a) sodium metal (b) zinc metal (c) magnesium metal (d) potassium metal

(x) Substitution reaction is the characteristics of:

(a) alkanes (b) alkenes (c) alkynes (d) none of these

(xi) Halogenation of methane in the presence of diffused sunlight takes place:

(a) suddenly, only in one step (b) slowly in one step
(c) in a series of four steps (d) fastly in two steps

(xii) The order of reactivity of hydrogen halides with alkenes is:

(a) HI > HBr (b) HBr > HI (c) HCl > HBr (d) HBr < HCl

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2- Write short answers of the following questions. (18)

(i) Givetwo uses of Methane.
(ii) What is Dehydrohalogenation of Alkyl Halides?
(iii) What are saturated and unsaturated hydro carbons?
(iv) How we can prepare Ethyne by dehydrohalogenation of vicinal Dihalides?
(v) Write the names and general formulas of unsaturated hydrocarbons.
(vi) Give two uses of Ethyne.
(vii) How hydrocarbons act as fuel?
(viii) What are alkynes? Give its general formula.
(ix) Why orchids produce alkanes?

Test # 8	Chapter # 12	Hydrocarbons	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Oxidation of alkenes produce:
(a) glyoxal (b) glycol (c) oxalic acid (d) formic acid

(ii) Dehydration of alchols can be carried out with:
(a) NaOH (b) KOH (c) H_2SO_4 (d) HCl

(iii) Which one of these is a saturated hydrocarbon?
(a) C_2H_4 (b) C_3H_6 (c) C_4H_8 (d) C_5H_{12}

(iv) Which are called paraffins?
(a) Alkanes (b) Alkenes (c) Alkynes (d) Alkyl

(v) Which is a substitution reaction?
(a) Halogenation of alkynes (b) Halogenation of alkenes
(c) Halogenation of alkanes (d) Bromination of alkenes

(vi) The general formula of saturated hydrocarbons is:
(a) C_nH_{2n+2} (b) C_nH_{2n} (c) C_nH_{2n-2} (d) C_nH_{2n+1}

(vii) Which one of these hydrocarbon molecules would have no effect on an aqueous solution of bromine?
(a) CH_4 (b) $C_{10}H_{20}$ (c) C_2H_4 (d) C_2H_2

(viii) If an organic compound has 4 carbon atoms, all singly bonded, it will have the following characteristics except one:
(a) it will be satured hydrocarbon (b) it will have 8 hydrogen atoms
(c) its name will be n-butane (d) it will be least reactive

(ix) The reduction of alkyl halides takes place in the presence of:
(a) Zn/HCl (b) Na/HCl (c) Mg/HCl (d) Cu/HCl

(x) Halogenation of methane does not produce which one of the following:
(a) carbon tetrachloride (b) chloroform (c) carbon black (d) chloromethane

(xi) Incomplete combustion of alkanes produces:
(a) carbon dioxide only (b) carbon monoxide only
(c) carbon monoxide and carbon black (d) carbon dioxide and carbon black

(xii) Alkenes are prepared from a alcohols by a process called:
(a) dehydrogenation (b) dehalogenation (c) dehydration (d) dehydrohalgenation

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2- Write short answers of the following questions. (18)

(i) Write down four physical properties of alkanes.
(ii) Define alkynes. Give two examples.
(iii) Give uses of ethylene.
(iv) What do you mean by halogenation?
(v) Why the alkanes are used as fuel?
(vi) Why alkenes are reactive?
(vii) Write occurence of alkene.
(viii) Write formula of glyoxal and oxalic acid.
(ix) How hydrocarbons are used in plastic industry?

Test # 9	Chapter # 13	Biochemistry	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Thousand of the amino acid polymerize to form:
(a) carbohydrates (b) proteins (c) lipids (d) vitamins

(ii) Which one of followings is a triglyceride?
(a) carbohydrates (b) proteins (c) lipids (d) vitamins

(iii) Enzymes are proteins which have the following properties except:
(a) they catalyze reaction (b) they are highly non-specific
(c) they are highly efficient (d) they are produced by living cells

(iv) Which one of the following vitamins is water soluble?
(a) vitamin A (b) vitamin C (c) vitamin D (d) vitamin E

(v) Which one of the following is a fat soluble vitamin?
(a) A (b) E (c) K (d) All of these

(vi) Which one of the following is not the characteristics of monosaccharide?
(a) white crystalline solids (b) soluble in water
(c) hydrolysable (d) reducing in nature

(vii) Which one of the following statements about glucose and sucrose is incorrect?
(a) soluble in water (b) naturally occurring (c) carbohydrates (d) disaccharides

(viii) Which one of the following is a reducing sugar?
(a) glucose (b) maltos (c) sucrose (d) starch

(ix) The most important oligosaccharide is:
(a) sucrose (b) glucose (c) fructose (d) maltose

(x) Night blindness is because of deficiency of:
(a) vitamin A (b) vitamin E (c) vitamin C (d) vitamin D

(xi) The organic compounds used as drugs to control bleeding are:
(a) vitamins (b) proteins (c) lipids (d) glycerides

(xii) Deficiency of vitamin E causes:
(a) rickets (b) scurvy (c) anemia in babies (d) night blindness

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2- Write short answers of the following questions. (18)

(i) What are fatty acids? Give one example.
(ii) What is Ribonucleic Acid (RNA)?
(iii) Write uses of Vitamin-D.
(iv) What are Fat Soluble Vitamins? Write their examples.
(v) What is difference between Oil and Ghee?
(vi) How carbohydrates act as source of energy?
(vii) Write down two uses of lipids.
(viii) Write two uses of proteins.
(ix) Write the names and formulae of two fatty acids.

Test # 10	Chapter # 13	Biochemistry	Time: 30 Min

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Lipids are macromolecules. They have characteristics except one of the following:

(a) they are high energy foods (b) they are soluble in water
(c) they are poor conductor of heat (d) they are esters of fatty acids

(ii) Vitamins are Accessory Growth Factors. They play important role in our body like:

(a) provide energy to the body (b) insulate our body from electric shock
(c) build brain cells (d) regulate metabolic process

(iii) The most important oligosaccharide is:

(a)Sucrose (b) Glucose (c) Fructose (d) Maltose

(iv) The process of photosynthesis produce:

(a) Starch (b) Cellulose (c) Sucrose (d) Glucose

(v) Eye inflammation is caused by the deficiency of Vitamin:

(a) Vitamin D (b) Vitamin C (c) Vitamin B (d) Vitamin A

(vi) Number of amino acids in proteins is:

(a) 1000 (b) 1000 more than (c) 10000 less than (d) 10000 more than

(vii) Carbohydrates are synthesized by plants through photosynthesis process which requires the following except:

(a) CO_2 and water (b) presence of sunlight (c) O_2 (d) chlorophyll

(viii) Which of the following is a disaccharide?

(a) glucose (b) fructose (c) sucrose (d) starch

(ix) Photosynthesis process produces:

(a) starch (b) cellulose (c) sucrose (d) glucose

(x) Which one of the following is taste less?

(a) starch (b) glucose (c) fructose (d) sucrose

(xi) When glucose and fructose combine they produce:

(a) starch (b) cellulose (c) sucrose (d) none of these

(xii) Glucose is:

(a) hexahydroxy aldehyde (b) hexahydroxy ketone
(c) pentahydroxy aldehyde (d) pentahydroxy ketone

2- Write short answers of the following questions. (18)

(i) Give general formula of lipids. Also give two examples.
(ii) Describe the uses of carbohydrates.
(iii) Which elements are found in proteins?
(iv) What are monosaccharides?
(v) Write down two characteristics of fats.
(vi) Write Uses of vitamin A.
(vii) How gelatin is obtained?
(viii) What is the function of DNA?
(ix) Write sources of vitamins A and D.

Test # 11	Chapter # 14	The Atmosphere	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Normally rain water is weakly acidic because of:
(a) SO_3 gas (b) CO_2 gas (c) SO_2 gas (d) SO_2 gas

(ii) Buildings are being damaged by acid rain because it attacks:
(a) calcium sulphate (b) calcium nitrate (c) calcium carbonate (d) calcium oxalate

(iii) Acid rain affects the aquatic life by closing fish gills because of:
(a) lead metal (b) chromium metal (c) mercury metal (d) aluminium metal

(iv) Ozone is beneficial for us as it:
(a) absorbs infrared radiations (b) absorbs ultraviolet radiations
(c) absorbs chlorofluorocarbons (d) absorbs air pollutants

(v) Which one of the following is not an air pollutant?
(a) nitrogen (b) carbon monoxide (c) nitrogen dioxide (d) ozone

(vi) Iron and steel structures are damaged by:
(a) carbon monoxide (b) sulphur dioxide (c) methane (d) carbon dioxide

(vii) Infrared radiations emitted by the Earth are absorbed by:
(a) CO_2 and H_2O (b) N_2 and O_2 (c) CO_2 and N_2 (d) O_2 and CO_2

(viii) Global warming causes rising of the sea level. The cause of global warming is:
(a) CO_2 gas (b) SO_2 gas (c) NO_x gas (d) O_3 gas

(ix) Which gas protects the Earth's surface from ultraviolet radiations?
(a) CO_2 (b) CO (c) N_2 (d) O_3

(x) Effects of ozone depletion are following except the one:
(a) increases infectious diseases (b) increases crops production
(c) can cause skin cancer (d) can cause climatic changes

(xi) Which one of these pollutants are not found in car exhaust fumes?
(a) CO (b) O_3 (c) NO_2 (d) SO_2

(xii) The process by which atmospheric nitrogen is turned into nitrates in the soil is called:
(a) nitration (b) fixing (c) oxidation (d) reduction

✂--

2- Write short answers of the following questions. (18)

(i) Where Ozone is found?
(ii) Write sources of oxides of carbon.
(iii) Give two serious effects of Ozone depletion.
(iv) Write two effects of acid rain.
(v) How incinceration of was material causes air pollution?
(vi) How acid rain increases the acidity of soil?
(vii) Describe the two effects of SO_2.
(viii) Identify the primary and secondary pollutants from the following. $SO_2, CH_4, HNO_3, NH_3, H_2SO_4, O_3$
(ix) What is the role of government to control pollution?

Test # 12	Chapter # 14	The Atmosphere	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Global warming is because of:

(a) absorption of infrared radiations emitted by the Earth's surface
(b) absorption of infrared radiations coming from the Sun
(c) absorption of ultraviolet raidation coming from the Sun
(d) Emission of ultraviolet radiation from the Earth's surface.

(ii) Carbon monoxide is harmful to us because it:

(a) Paralyses lungs (b) Damages lungs tissue
(c)Reduces oxygen carrying ability of haemoglobin (d) Makes the blood coagulate

(iii) The stratosphere layer is at height above the earth's surface:

(a) 0-12 Km (b) 12-50 Km (c) 50-85 Km (d) 85-120 Km

(iv) The process by which atmospheric nitrogen is turned into nitrates is called:

(a) Nitration (b) Fixing (c) Oxidation (d) Reduction

(v) The earth's atmosphere is getting hotter because of inreasing concentration of:

(a) CO (b) CO_2 (c) O_3 (d) SO_2

(vi) High concentration of which element clogs the fish gills?

(a) Al (b) Cu (c) Zn (d) Br

(vii) How many percentage of sunlight is absorbed by atmospheric gases.

(a) 12% (b) 18% (c) 24% (d) 30%

(viii)Which gas is not present in atmosphere?

(a) Nitrogen (b) Oxygen (c) Helium (d) Carbon dioxide

(ix) About 99% atmosphere's mass lies within:

(a) 30 kilometre (b) 35 kilometre (c) 15 kilometre (d) 11 kilometre

(x) Depending upon temperature variation, atmosphere is divided into how many regions?

(a) one (b) two (c) three (d) four

(xi) Just above the Earth's surface is:

(a) mesosphere (b) stratosphere (c) thermosphere (d) troposphere

(xii) A group of gases that maintains temperature of atmosphere is:

(a) carbon dioxide and water vapours (b) nitrogen and carbon dioxide
(c) oxygen and water vapours (d) nitrogen and oxygen

2- Write short answers of the following questions. (18)

(i) State the major sources of CO and CO_2 emission.
(ii) What is the difference between atmosphere and environement?
(iii) What is global warming? Write its effects.
(iv) Why are the flood risks increasing?
(v) Write percentage composition of atmposphere by volume.
(vi) How CO is an air pollutant?
(vii) What are the characteristics of atmospheric region?
(viii)What is air pollutant? Give example of primary and secondary air pollutants.
(ix) How CO_2 is responsible for heating up atmosphere?

Test # 13	Chapter # 15	Water	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Which one of the following salts makes the water permanently hard?

(a) Na_2CO_3 (b) $NaHCO_3$ (c) $Ca(HCO_3)_2$ (d) $CaSO_4$

(ii) Rapid growth of algae in water bodies is because of detergent having:

(a) carbonate salts (b) sulphonic acid salts (c) sulphate salts (d) phosphate salts

(iii) Depletion of O_2 from water is not because of:

(a) decaying of aquatic plants (b) biodegradation of aquatic plants

(c) rapid growth of aquatic plants (d) decomposition of aquatic plants

(iv) Which one of the following diseases causes liver inflammation?

(a) typhoid (b) jaundice (c) cholera (d) hepatitis

(v) Which one of the following diseases causes severe diarrhea and can be fatal?

(a) jaundice (b) dysentery (c) cholera (d) typhoid

(vi) Which one of the following gases is used to destroy harmful bacteria in water?

(a) iodine (b) chlorine (c) fluorine (d) bromine

(vii) Which one of the following ions does not cause hardness in water?

(a) Ca^{2+} (b) Mg^{2+} (c) SO_4^{2-} (d) Na^+

(viii) A disease that causes bone and tooth damage is:

(a) fluorosis (b) hepatitis (c) cholera (d) jaundice

(ix) Ionic compounds are soluble in water due to:

(a) hydrogen bonding (b) ion-dipole forces

(c) dipole-dipole forces (d) dipole-induced dipole forces

(x) The chemicals used to kill or control pests are called pesticides. They are:

(a) dangerous inorganic chemicals (b) dangerous organic chemicals

(c) beneficial inorganic chemicals (d) beneficial organic chemicals

(xi) Sodium zeolite is resin of:

(a) $NaAl(SiO_3)_2$ (b) $KAl(SiO_3)_2$ (c) $LiAl(SiO_3)_2$ (d) $RbAl(SiO_3)_2$

(xii) Which one of the following ion does not cause hardness in water:

(a) Ca^{2+} (b) Mg^{2+} (c) SO_4^{2-} (d) Na^+

2- Write short answers of the following questions. (18)

(i) Why pesticides are used?

(ii) Write a note on cryptosporidium.

(iii) What are two effects of water pollution?

(iv) What is an industrial waste?

(v) What do you mean by water as solvent?

(vi) What are Boiler Scales? How these are abolished?

(vii) Write types of hardness of water.

(viii) How waterborne diseases can be prevented?

(ix) Write down chemistry of swimming pool cleanliness.

Test # 14	Chapter # 15	Water	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Which percentage of the total water on the earth is potable?

(a) 0.1 (b) 0.2 (c) 0.3 (d) 0.4

(ii) Water shows maximum density at.

(a) $0^{o}C$ (b) $100^{0}C$ (c) $4^{0}C$ (d) $-4^{0}C$

(iii) Which one of the following salts makes the water permanent hard?

(a) Na_2CO_3 (b) $NaHCO_3$ (c) $Ca(HCO_3)_2$ (d) $CaSO_4$

(iv) Boiling point of water is:

(a) $0^{o}C$ (b) $25^{o}C$ (c) $80^{o}C$ (d) $100^{o}C$

(v) The oceans contain about of total world's water:

(a) 91% (b) 93% (c) 95% (d) 97%

(vi) The removal of Mg^{+2} and Ca^{+2} ions which are responsible for the hardness of water is called:

(a) Temporary hardness (b) Permanent hardness

(c) Water softening (d) Hydrogen bonding

(vii) Which one of the following properties of water is responsible for rising of water in plants?

(a) specific heat capacity (b) surface tension

(c) excellent solvent action (d) capillary action

(viii) Specific heat capacity of water is:

(a) $4.2kJg^{-1}K^{-1}$ (b) $4.2Jg^{-1}K^{-1}$ (c) $2.4kJg^{-1}K^{-1}$ (d) $2.4Jg^{-1}K^{-1}$

(ix) Water dissolves non-ionic compound by:

(a) ion-ion forces (b) ion-dipole forces (c) dipole-dipole forces (d) hydrogen bonding

(x) Temporary hardness is because of:

(a) $Ca(HCO_3)_2$ (b) $CaCO_3$ (c) $MgCO_3$ (d) $MgSO_4$

(xi) Temporary hardness is removed by adding:

(a) quick lime (b) slaked lime (c) limestone (d) lime water

(xii) Permanent hardness is removed by adding:

(a) Na_2 zeolite (b) soda lime (c) lime water (d) quick lime

✂---

2- Write short answers of the following questions. (18)

(i) Define soft and hard water.

(ii) Explain the Clark's method for removal of hardness in water.

(iii) Write down the disadvantages of hard water.

(iv) Mention the disadvantages of detergents.

(v) Why sea water is unfit for drinking and agricultural purposes?

(vi) What is the function of fertilizers?

(vii) Why water molecule is polar?

(viii) What are the causes of hardness in water?

(ix) What is the differences biodegradable and non-biodegradable substances?

Test # 15	Chapter # 16	Chemical Industries	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) In Solvay's process slaked lime is used to:
(a) prepare CO_2 (b) prepare quick lime (c) recover ammonia (d) form Na_2CO_3

(ii) When $NaHCO_3$ is heated it forms:
(a) CO_2 (b) $Ca(OH)_2$ (c) $CaCO_3$ (d) CaO

(iii) Formula of urea is:
(a) NH_2COONH_4 (b) NH_2COONH_2 (c) NH_2CONH_4 (d) NH_2CONH_2

(iv) Crude oil is heated in the furnace upto:
(a) 300^oC (b) 350^oC (c) 400^oC (d) 450^oC

(v) When heated crude oil is fed to the fractionating tower:
(a) vapours of higher boiling point fraction condens first in the lower part of the tower
(b) vapours of lower boiling point fraction condense first in the lower part of tower
(c) vapours of higher boiling point condense later in the upper part of tower
(d) vapours of higher boiling point never condense.

(vi) Which one of the following is used as jet fuel:
(a) kerosene oil (b) lubricating oil (c) fuel oil (d) diesel oil

(vii) Which one of the following is not fraction of crude oil?
(a) paraffin wax (b) asphalt (c) fuel oil (d) petroleum coke

(viii) Which one of the following is not a fraction of petroleum?
(a) kerosene oil (b) diesel oil (c) alcohol (d) petrol

(ix) The nitrogen present in urea is used by plants to synthesize:
(a) sugar (b) proteins (c) fats (d) DNA

(x) Which one of the following organic compound is found in gasoline?
(a) C_2H_4 (b) C_3H_8 (c) C_8H_{18} (d) $C_{12}H_{26}$

(xi) Fuel oil contains carbon:
(a) C_7-C_{10} (b) $C_{10}-C_{12}$ (c) $C_{15}-C_{18}$ (d) All these

(xii) Gasoline consists of no. of carbon atoms:
(a) 5 to 7 (b) 7 to 10 (c) 13 to 15 (d) 15 to 18

✂--

2- Write short answers of the following questions. (18)

(i) Write a note on granulation of urea.
(ii) What process are involved in extraction of metal?
(iii) What is Electromagnetic separation?
(iv) Give the reaction of formation of Ammonia in the process in the form of equation.
(v) Why Urea is an important compound?
(vi) What is gangue?
(vii) Write raw materials or manufacturing urea.
(viii) What are Fertilizers?
(ix) Write the uses of Fuel Oil.

Test # 16	Chapter # 16	Chemical Industries	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Petroleum fraction having composition C_1 to C_4 is called:
(a) Petroleum gas (b) Petroleum ether (c) Gasoline or petrol (d) Kerosine oil

(ii) The impurities associated with the minerals are knowns as:
(a) Metallurgy (b) Ores (c) Gangue (d) Compounds

(iii) What is the composition of Kerosene oil?
(a) $C_5 - C_7$ (b) $C_7 - C_{10}$ (c) $C_{10} - C_{12}$ (d) $C_{13} - C_{15}$

(iv) Ammonia is prepared by:
(a) Solvay's process (b) Haber's process (c) Floation process (d) Bayer's process

(v) Manufacturing of Urea involves how many stages.
(a) 2 (b) 3 (c)4 (d) 5

(vi) Urea is a Nitrogen Fertilizer. It consists ___ of Nitrogen.
(a) 26.6% (b) 36.6% (c) 46.6% (d) 56.6%

(vii) Concentration is a:
(a) mixing technique (b) separating technique
(c) boiling technique (d) cooling technique

(viii) Forth flotation process is used to concentrate the ore on:
(a) density basis (b) concentration basis (c) wetting basis (d) magnetic basis

(ix) Matte is a mixture of:
(a) FeS and CuS (b) Cu_2O and FeO (c) Cu_2S and FeS (d) CuS and FeO

(x) In the bessemerization process:
(a) roasted ore is heated (b) molten matte is removed
(c) molten matte is heated (d) molten matte is added

(xi) Concentration of the copper ore is carried out by:
(a) calcinations (b) roasting (c) forth flotation (d) distillation

(xii) When CO_2 is passed through the ammonical brine the only salt that precipitates is:
(a) $NaHCO_3$ (b) NH_4HCO_3 (c) Na_2CO_3 (d) $(NH_4)_2CO_3$

2- Write short answers of the following questions. (18)

(i) Write the use of kerosene oil.
(ii) Describe the difference between diesel oil and fuel oil.
(iii) Write the formula of petrol and also write its carbon composition. Pattern
(iv) What is difference between crude oil and residual oil?
(v) What are minerals?
(vi) Define metallurgy.
(vii) How ammonium carbamate formed?
(viii) Write a note on forth flotation process in the concentration of ore.
(ix) How carried out the refining of pertoleum?

Test # 17	Chapter # 9, 10	Chemical Equilibrium To Acids, Bases and Salts	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) The expression for the equilibrium constant for the reaction $N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$ is:

(a) $\frac{[NH_3]^2}{[N_2][H_2]^3}$ (b) $\frac{[N_2][H_2]^3}{[NH_3]^2}$ (c) $\frac{[NH_3]}{[N_2][H_2]}$ (d) $\frac{[NH_3]}{[N_2][H_2]^3}$

(ii) If the value of K_C is large, reaction goes to _______.

(a) Equilibrium (b) Completion (c) Forward (d) Reverse

(iii) If $Q_C < K_C$ reaction proceeds:

(a) Forward (b) Reverse (c) Equilibrium (d) Both sides

(iv) The substances formed during the chemical reaction are called:

(a) Products (b) Reactants (c) Radicals (d) Element

(v) $N_2O_4 \rightleftharpoons 2NO_2$ reaction has K_C value.

(a) 0.213 (b) 0.214 (c) 0.211 (d) 0.212

(vi) Guldberg and Waage put forward Law of Mass Action in:

(a) 1859 (b) 1869 (c) 1879 (d) 1889

(vii) What is pOH of 0.001 M solution of KOH?

(a) 3 (b) 11 (c) 2 (d) 4

(viii) The word acid is derived from:

(a) Greek (b) Latin (c) English (d) Urdu

(ix) Which compounds protect teeth from diseases.

(a) Flourine compounds (b) Iodine compounds
(c) Chlorine Compounds (d) Bromine compounds

(x) What is pOH of .01 M solution of HCl.

(a) 12 (b) 13 (c) 1 (d) 4

(xi) Acids turned:

(a) Blue litmus to red (b) Red litmus to blue
(c) Blue litmus to green (d) Red litmus to yellow

(xii) The colour of ppt of Fe $(OH)_3$ is:

(a) White (b) Brown (c) Dirty green (d) Blue

2- Write short answers of the following questions. (18)

(i) How is dynamic equilibrium established?
(ii) Write two macroscopic characteristics of forward reaction.
(iii) What is meant by reversible reaction?
(iv) Define reversible reaction and give two examples.
(v) What is meant by neutralization? Write an equation.
(vi) Define pH. What is the pH of pure water?
(vii) Write down the names of two natural acids and their sources.
(viii) Write down the uses of Sodium Chlorate.
(ix) Write physical properties of acid.

Test # 18	Chapter # 9, 10	Chemical Equilibrium To Acids, Bases and Salts	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) The reaction goes from left to right of:
(a) $Q_c = K_c$ (b) $Q_c > K_c$ (c) $Q_c < K_c$ (d) $Q_c = 0$

(ii) For the reaction $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ the equilibrium constant expression is:
(a) $\frac{[HI]^2}{[H_2][I_2]}$ (b) $\frac{[H_2][I_2]}{[H]^2}$ (c) $\frac{[HI]^2}{[H]^2[I_2]}$ (d) $\frac{[H]^2[I]^2}{[HI]^2}$

(iii) The molar concentration is expressed in:
(a) { } (b) [ ] (c) ( ) (d) All

(iv) For reactions in which the number of moles of reactants and product are not equal in the balanced chemical equation, K_c of course, have units:
(a) mol^{-2} (b) dm^6 (c) mol^2 (d) $mol^{-2}dm^6$

(v) In a reversible reaction if $Q_c = K_c$ then:
(a) Reaction is occuring in forward direction (b) Reaction is occuring in reverse direction
(c) Equilibrium has been attained (d) Reaction is not at equilibrium

(vi) A complete reaction is in which:
(a) All the reactants convert into products (b) All the reactants do not convert into products
(c) Half reactants convert into products (d) Only 10% reactants convert into products

(vii) The acid which is called king of chemical:
(a) Sulphuric acid (b) Nitric acid (c) Hydrochloric acid (d) Acetic acid

(viii) Which base is more corrosive?
(a) NH_4OH (b) $NaOH$ (c) $Ca(OH)_2$ (d) $Al(OH)_3$

(ix) Example of complex salt is:
(a) Zinc sulphate (b) Potash alum
(c) Potassium ferrocyanide (d) Sodium phosphate

(x) $K4[Fe(CN)_6]$ is a:
(a) Normal salt (b) Mixed salt (c) Complex salt (d) Double salt

(xi) Which salt is used as fertilizer?
(a) KNO_3 (b) KCl (c) $CaCl_2$ (d) $NaClO_3$

(xii) Which salt is used to dry a gas:
(a) $CaC\ell_2$ (b) $NaC\ell$ (c) CaO (d) Na_2SiO_3

2- Write short answers of the following questions. (18)

(i) What do you mean by the extent of a reaction?
(ii) How does large numerical value of K_c help us to predict the extent of a chemical reaction?
(iii) What is a Static equilibrium? Explain with an example.
(iv) What is meant by dynamic equilibrium?
(v) Write the equilibrium constant expression for the following reaction. $N_{2(g)} + O_{2(g)} \rightleftharpoons 2NO_{(g)}$
(vi) Write physical properties of acids.
(vii) What is an alchoholic functional group? Give an example.
(viii) What is neutralization method for the preparation of a salt?
(ix) What are limitations of Arhenius concept?

Test # 19	Chapter # 11, 12	Organic Chemistry To Hydrocarbons	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Traces the amount of acetylene present in coal gas are:

(a) 0.06%　(b) 0.07%　(c) 0.08%　(d) 0.09%

(ii) The ability of Carbon atom to form chain is called:

(a) Isomerism　(b) Catenation　(c) Resonance　(d) Condensation

(iii) Which one is saturated hydro carbon:

(a) C_2H_4　(b) C_3H_6　(c) C_4H_8　(d) C_5H_{12}

(iv) The formula of Pantane is:

(a) C_5H_{12}　(b) C_5H_{10}　(c) C_5H_8　(d) C_5H_{14}

(v) How many percent of natural gas is consisted of methane (CH_4):

(a) 82%　(b) 83%　(c) 84%　(d) 85%

(vi) General formula of alkenes is:

(a) C_nH_{2n-2}　(b) C_nH_{2n}　(c) C_nH_{2n+2}　(d) C_nH_{2n+1}

(vii) Which one is also called "Olefins"?

(a) Alkanes　(b) Alkenes　(c) Alkynes　(d) Alcohals

(viii) Which reaction is the characteristic property of alkanes:

(a) Substitution reaction　(b) Oxidation reaction

(c) Reduction reaction　(d) Addition reaction

(ix) Which gas is produced during ripening of bananas?

(a) Methane　(b) Ethene　(c) Acetylene　(d) CO_2

(x) Which one of the following compounds is not produced by the halogenation of methane?

(a) CCl_4　(b) $CHCl_3$　(c) CO_2　(d) CH_3Cl

(xi) Molecular formula of butane is:

(a) C_4H_8　(b) C_4H_{10}　(c) C_4H_{12}　(d) C_4H_6

(xii) Which one of the following compounds is saturated hydrocarbon:

(a) Methane　(b) Propene　(c) Ethyne　(d) Propyne

✂--

2- Write short answers of the following questions. (18)

(i) Write two general properties of organic compounds.

(ii) How coal is formed?

(iii) What is destructive distillation?

(iv) Write formulae of n-propyl and isopropyl.

(v) Which compounds are called Ketones?

(vi) What is reduction reaction? Give chemical equation.

(vii) Describe the combustion process with equation.

(viii) Write down the molecular and structural formula of Ethyne.

(ix) Describe the characteristics of poly-saccharides.

Test # 20	Chapter # 11, 12	Organic Chemistry To Hydrocarbons	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Wood contains carbon about:
(a) 10% (b) 20% (c) 30% (d) 40%

(ii) The formula of octane is:
(a) C_9H_{18} (b) C_8H_{18} (c) C_8H_{20} (d) C_9H_{20}

(iii) Percentage of carbon in peat is:
(a) 30% (b) 40% (c) 50% (d) 60%

(iv) The coal in which the percentage of carbon is 60%:
(a) Peat (b) Lignite (c) Bituminous (d) Anthracite

(v) Rancid butter has a foul smell because of:
(a) Butanoic acid (b) Nitric acid (c) Tartaric acid (d) Sulphuric acid

(vi) The example of heterocyclic compound is:
(a) Benzene (b) Hexane (c) Cyclohexane (d) Pyridine

(vii) The chemical formula of chloroform is:
(a) $CH_3C\ell$ (b) $CH_2C\ell_2$ (c) $CHC\ell_3$ (d) $CC\ell_4$

(viii) General formula of alkynes is:
(a) C_nH_{2n} (b) C_nH_{2n+1} (c) C_nH_{2n+2} (d) C_nH_{2n-2}

(ix) Which one of these hydrocarbon molecules would have no effect on an aqueous solution of bromine?
(a) CH_4 (b) $C_{10}H_{20}$ (c) C_2H_4 (d) C_2H_2

(x) If an organic compound has 4 carbon atoms, all singly bonded, it will have the following characteristics except one:
(a) it will be satured hydrocarbon (b) it will have 8 hydrogen atoms
(c) its name will be n-butane (d) it will be least reactive

(xi) The reduction of alkyl halides takes place in the presence of:
(a) Zn/HCl (b) Na/HCl (c) Mg/HCl (d) Cu/HCl

(xii) Halogenation of methane does not produce which one of the following:
(a) carbon tetrachloride (b) chloroform
(c) carbon black (d) chloromethane

✂--

2- Write short answers of the following questions. (18)

(i) What is natural gas?
(ii) What is ether linkage?
(iii) Explain the strength of covalent bonds of carbon.
(iv) What is meant by carboxyl functional group? Explain with an example.
(v) What is coal gas? Write down its use.
(vi) How can we get alkanes?
(vii) What is substitution reaction?
(viii) How alcohols are dehydrated. Write chemical equation.
(ix) Why are the alkanes called 'Paraffins'?

Test # 21	Chapter # 13, 14	Biochemistry To The Atmosphere	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Basic structural unit of nucleic acids is:
(a) Amino acid (b) Glucose (c) Nucleoside (d) Nucleotide

(ii) Which protect our muscles from cramping?
(a) Proteins (b) Lipids (c) Vitamins (d) Carbohydrates

(iii) Formula of palmitic acid is:
(a) $C_{15}H_{31}COOH$ (b) $C_{16}H_{32}COOH$ (c) $C_{17}H_{35}COOH$ (d) $C_{18}H_{36}COOH$

(iv) In which part of digestive system Glucose is absorbed?
(a) Stomach (b) Liver (c) Small Intestine (d) Large Intestine

(v) Which one vitamin of the following is soluble in water:
(a) Vitamin A (b) Vitamin C (c) Vitamin D (d) Vitamin E

(vi) Which of the following is a disaccharide?
(a) Glucose (b) Fructose (c) Sucrose (d) Starch

(vii) At the height 85 - 120 km from earth's surface is:
(a) Troposhphere (b) Mesosphere (c) Straitosphere (d) Themosphere

(viii) Waste material that pollutes air, water and soil is termed as:
(a) Pollution (b) Pollutant (c) Solvent (d) Solution

(ix) We exhale gas in the atmosphere during respiration:
(a) Carbon dioxide (b) Oxygen (c) Nitrogen (d) Water

(x) The major constituents of troposphere are nitrogen and:
(a) Hydrogen (b) Carbon dioxide (c) Oxygen (d) Sulphur

(xi) Ozone is formed in:
(a) Troposphere (b) Stratosphere (c) Mesosphere (d) Thermosphere

(xii) ____of the volume of the atmosphere of earth contains Nitrogen and Oxygen gases.
(a) 69% (b) 79% (c) 89% (d) 99%

2- Write short answers of the following questions. (18)

(i) Write names and formulas of two fatty acids?
(ii) Define Amino Acids write general formula.
(iii) How Hydrogenation of vegetable oil takes place. Give equation.
(iv) Describe the denaturing of proteins.
(v) Write down two conmmercial uses of enzymes.
(vi) Name the major constituents of troposphere.
(vii) Write two methods to control the pollution.
(viii) Why the temperature of upper part of startosphere is high?
(ix) What do you mean by air pollution?

Test # 22	Chapter # 13, 14	Biochemistry To The Atmosphere	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Lactic acid is found in:
(a) Milk (b) Apple (c) Lemon (d) Urine

(ii) Amino acids polymerise to produce:
(a) Carbohydrates (b) Proteins (c) Lipids (d) Vitamins

(iii) Deficiency of vitamin D causes:
(a) Rickets (b) Scurvy (c) Anemia (d) Night Blindness

(iv) Which scientist discovered the structure of DNA?
(a) Hopkins (b) John Dalton (c) Watson and Crick (d) Robert Hooke

(v) Which one is carboxylic group?
(a) $>C=O$ (b) $-C-OH$ (c) $R-C-OR'$ (d) $-C-H$

(vi) Number of vitamins in vitamin B complex is:
(a) 10 (b) 8 (c) 6 (d) 12

(vii) pH of acid rain is about:
(a) 4 (b) 6 (c) 6.5 (d) 2

(viii) How many atmospheric temperature increase every year due to accumulation of carbon dioxide in air?
(a) 0.01°C (b) 0.05°C (c) 0.09°C (d) 0.013°C

(ix) Thermosphere layer is at height above Earth's surface is:
(a) 0-12 km (b) 12-50 km (c) 50-85 km (d) 85-120 km

(x) On What basis atmosphere is divided into four regions:
(a) Change in Pressure (b) Change in Radiations
(c) Change in Temperature (d) Change in Weather

(xi) pH of rainy water is:
(a) 5 ---- 6 (b) 6 ---- 6.5 (c) 6.5 ---- 7 (d) 7 --- 7.5

(xii) About 99% atmosphere's mass lies within:
(a) 30 kilometre (b) 35 kilometre (c) 15 kilometre (d) 11 kilometre

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2- Write short answers of the following questions. (18)

(i) Write names and formulas of two fatty acids?
(ii) Define Amino Acids write general formula.
(iii) How Hydrogenation of vegetable oil takes place. Give equation.
(iv) Describe the denaturing of proteins.
(v) Write down two conmmercial uses of enzymes.
(vi) Name the major constituents of troposphere.
(vii) Write two methods to control the pollution.
(viii) Why the temperature of upper part of startosphere is high?
(ix) What do you mean by air pollution?

Test # 23	Chapter # 15, 16	Water To Chemical Industries	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. **(12)**

(i) The process of removing temporary hardness of water is:
(a) Clark's method (b) Washing soda method (c) Sodium zeolite (d) Filteration method

(ii) The lives of aquatic plants and animals are indirctly related to concentration of dissolved gas in water.
(a) Nitrogen (b) Hydrogen (c) Oxygen (d) Carbon

(iii) Cholera is caused by:
(a) Protozoa (b) Virus (c) Bacteria (d) Fungi

(iv) Which ion is responsible for the hardness of water.
(a) Na^{+} (b) Fe^{2+} (c) Zn^{2+} (d) Ca^{2+}

(v) Boiling point of alcohol in centigrade is.
(a) 68 (b) 78 (c) 100 (d) 108

(vi) The density of water at 4°C is:
(a) $1gcm^{-3}$ (b) $2gcm^{-3}$ (c) $3gcm^{-3}$ (d) $4gcm^{-3}$

(vii) In diesel oil, the carbon composition is:
(a) $C_7 to C_{10}$ (b) $C_{10} to C_{12}$ (c) $C_{13} to C_{15}$ (d) $C_{15} to C_{18}$

(viii) Which one is not the fraction of residual oil?
(a) Paraffin wex (b) Asphalt (c) Fuel oil (d) Coke

(ix) The chemical formula of chalcopyrite is:
(a) Cu_2S (b) $CuFe_2S$ (c) CuS (d) FeS

(x) Concentration is a:
(a) mixing technique (b) separating technique (c) boiling technique (d) cooling technique

(xi) Forth flotation process is used to concentrate the ore on:
(a) density basis (b) concentration basis (c) wetting basis (d) magnetic basis

(xii) Matte is a mixture of:
(a) FeS and CuS (b) Cu_2O and FeO (c) Cu_2S and FeS (d) CuS and FeO

2- Write short answers of the following questions. **(18)**

(i) What do you mean by Fluorosis?
(ii) Define Scum.
(iii) How sodium zeolite softens water?
(iv) Describe one method to remove the permanent hardness of water.
(v) What do you know about the occurrence of water?
(vi) Define gangue and metallurgy.
(vii) How $NaHCO_3$ is converted to Na_2CO_3?
(viii) How ammonia is prepared for the synthesis of urea?
(ix) Write down raw material for Salvay's process.

Test # 24	Chapter # 15, 16	Water To Chemical Industries	Time: 30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Presence of ______ ions in water results in a rapid growth of algae is:
(a) NO_3^-, P_4^{3-} (b) $Br^-, C\ell^-$ (c) $C\ell^-, SiO_3^{2-}$ (d) SO_4^{2-}, CO_3^{2-}

(ii) Clark's method is used to remove the hardness of water. In this method which is used:
(a) $Ca(HCO_3)_2$ (b) Ca - Zeolite (c) Na_2 Zeolite (d) $Ca(OH)_2$

(iii) Which one of the following is agricultural effluent:
(a) Heavy Metals (b) Mineral Acids (c) Detergents (d) Fertilizers

(iv) Vibrios cholera bacteria causes the disease:
(a) Cholera (b) Dysentery (c) Typhoid (d) Hepatitis

(v) The bond angle between H-O-H in water is:
(a) 104.5° (b) 104.6° (c) 104.7° (d) 104.8°

(vi) Which one of the following properties of water is responsible for rising of water in plants?
(a) specific heat capacity (b) surface tension
(c) excellent solvent action (d) capillary action

(vii) In the bessemerization process:
(a) roasted ore is heated (b) molten matte is removed
(c) molten matte is heated (d) molten matte is added

(viii) Concentration of the copper ore is carried out by:
(a) calcinations (b) roasting (c) forth flotation (d) distillation

(ix) When CO_2 is passed through the ammonical brine the only salt that precipitates is:
(a) $NaHCO_3$ (b) NH_4HCO_3 (c) Na_2CO_3 (d) $(NH_4)_2CO_3$

(x) In Solvay's process slaked lime is used to:
(a) prepare CO_2 (b) prepare quick lime (c) recover ammonia (d) form Na_2CO_3

(xi) When $NaHCO_3$ is heated it forms:
(a) CO_2 (b) $Ca(OH)_2$ (c) $CaCO_3$ (d) CaO

(xii) Formula of urea is:
(a) NH_2COONH_4 (b) NH_2COONH_2 (c) NH_2CONH_4 (d) NH_2CONH_2

2- Write short answers of the following questions. (18)

(i) What is water pollution?
(ii) Write a short note on Cholera.
(iii) Write any four names of diseases borne by water.
(iv) What are domestic effluents?
(v) Write any four properties of water.
(vi) What is gravity separation?
(vii) Define petroleum and refining process.
(viii) Which petroleum fraction is used in dry cleaning? Write down its boiling range.
(ix) Write down any two advantages of Solvay process.

Test # 25	Chapter # 9 To 12	First Half Book Paper No. 1	Time: 1 Hour

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Such reactions which continue in both directions are called:
(a) Irreversible (b) Reversible (c) Non-reactive (d) Dynamic

(ii) A reaction in which products recombine to form reactants is called:
(a) Reversible reaction (b) Irreversible reaction (c) Forward reaction (d) Backward reaction

(iii) When reaction ceases to proceed is called:
(a) Dynamic equilibrium (b) Pause equilibrium
(c) Physical equilibrium (d) Static equilibrium

(iv) When $CaCO_3$ is heated in an open flask, it decomposes to form calcium oxide (CaO) and ______
(a) O_2 (b) CO (c) CO_2 (d) CO_3

(v) Class formula of primary alcohol is:
(a) $R-CH_2-OH$ (b) R_2CH-OH (c) R_3C-OH (d) $R-O-R$

(vi) Used in the manufacturing of soap is:
(a) $Pb(NO_3)_2$ (b) $ZnCl_2$ (c) $NaOH$ (d) $Fe(OH)_2$

(vii) The branch of chemistry which deals with the study of hydrocarbons and their derivatives is known as:
(a) In organic chemistry (b) Organic chemistry (c) Physical chemistry (d) Analytical chemistry

(viii) Total No. of elements known till now are:
(a) 102 (b) 109 (c) 118 (d) 126

(ix) Functional group of alcohols is:
(a) -COOH (b) > C = O (c) C - O - C (d) - OH

(x) Incomplete combustion of alkanes produces:
(a) carbon dioxide only (b) carbon monoxide only
(c) carbon monoxide and carbon black (d) carbon dioxide and carbon black

(xi) Alkenes are prepared from a alcohols by a process called:
(a) dehydrogenation (b) dehalogenation (c) dehydration (d) dehydrohalgenation

(xii) Dehydrohalogenation takes place in the presence of:
(a) NaOH aqueous (b) alcoholic KOH (c) aqueous KOH (d) alcoholic NaOH

✂--

2- Write short answers of the following questions. (20)

(i) Write two macroscopic characteristics of reverse reactions.
(ii) What is active mass? Also write its unit.
(iii) Write four naturally occurring acids with uses.
(iv) What are indicators write names of two indicators.
(v) Describe about universal indicator.
(vi) What happens when ethyl alcohol is heated in the presence of H_2SO_4 ?
(vii) What is Vital Force Theory?
(viii) Define combustion write two equations with Methane and Oxygen.
(ix) How can prepare propene from propyl alcohol?
(x) Write down two uses of ethene.

SUBJECTIVE PART

☆ Answers the following questions with detail. (18)

3- (a) Describe reversible reaction with the help of an example and graph. (05)
(b) Write down the reactions of acids with metals, carbonates and bicarbonates. (04)

4- (a) Define functional group. Give the examples of aldehydic and ketonic functional groups. (05)
(b) Write down physical properties of alkanes. (04)

Test # 26	Chapter # 9 To 12	First Half Book Paper No. 2	Time: 1 Hour

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) The characteristics of reversible reactions are the following except:

(a) products never recombine to form reactants (b) they never complete
(c) they proceed in both ways
(d) the have a double arrow between reactants and products

(ii) In the lime kiln, the reaction $CaCO_{3(s)} \longrightarrow CaO_{(s)} + CO_{2(g)}$ goes to completion because:

(a) of high temperature (b) CaO is more stable than $CaCO_3$
(c) CO_2 escapes continuously (d) CaO is not dissociated

(iii) For the reaction, $2A_{(g)} + B_{(g)} \rightleftharpoons 3C_{(g)}$

(a) $\frac{[2A][B]}{[3C]}$ (b) $\frac{[A]^2[B]}{[C]^3}$ (c) $\frac{[3C]}{[2A][B]}$ (d) $\frac{[C]^3}{[A]^2[B]}$

(iv) Acids have taste:

(a)Bitter (b) Sweetish (c) Sour (d) Saltish

(v) Bases have taste:

(a)Bitter (b) Sweetish (c) Sour (d) Saltish

(vi) Which one gas is librated, when alkalies react with ammonium salts:

(a) O_2 (b) CO_2 (c) H_2 (d) NH_3

(vii) Benzene is formed by the polymerization of:

(a) Methane (b) Acetylene (c) Ethene (d) Butene

(viii)How many C - C bonds having a bond energy?

(a) $255\,KJ\,mol^{-1}$ (b) $355\,KJ\,mol^{-1}$ (c) $455\,KJ\,mol^{-1}$ (d) $555\,KJ\,mol^{-1}$

(ix) The ability of carbon atoms to form chains is called:

(a) isomerism (b) catenation (c) resonance (d) condensation

(x) Oxidation of ethene with $KMnO_4$ produces:

(a) Oxalic acid (b) glyoxal (c) ethane glycol (d) propene glycol

(xi) Which one of these is a saturated hydrocarbon?

(a) C_2H_4 (b) C_3H_6 (c) C_4H_8 (d) C_5H_{12}

(xii) A hydrocarbon has molecular formula C_8H_{14}. What is the molecular formula of the next member of the same homologous series?

(a) C_9H_{18} (b) C_9H_{16} (c) C_9H_{20} (d) C_9H_{12}

✂--

2- Write short answers of the following questions. (20)

(i) Differentiate between products and reactants.
(ii) Define K_c large value and K_c small value.
(iii) A solution of HCl is 0.01 M. What is its pH value.
(iv) Differentiate between Lewis base and conjugate base.
(v) What is indicator? Give two examples.
(vi) Give a test to identify $H_2C = CH_2$.
(vii) How animals are sources of organic compounds?
(viii)Why alkenes are called olefins?
(ix) What are closed chain hydrocarbons?
(x) Define hydrocarbons?

SUBJECTIVE PART

☆ **Answers the following questions with detail. (18)**

3- (a) How equilibrium constant help to predict the direction of reaction? (05)
(b) Write three uses of salts. (04)

4- (a) What is homologus series? Write down the properties of its organic compounds. (05)
(b) Write down any three uses of Acetylene. (04)

Test # 27	Chapter # 13 To 16	Second Half Book Paper No. 1	Time: 1 Hour

	A	B	C	D
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

(i) Formula of stearic acid is:
(a) $C_{17}H_{35}COOH$ (b) $C_{17}H_{33}COOH$ (c) $C_{17}H_{37}COOH$ (d) $C_{15}H_{31}COOH$

(ii) Citric acid is found in:
(a) Lemon (b) Apple (c) Milk (d) Fats

(iii) Lactose consists of glucose and:
(a) Sucrose (b) Maltose (c) Starch (d) Galactose

(iv) Depending upon temperature variation, atmosphere is divided into how many regions?
(a) one (b) two (c) three (d) four

(v) Just above the Earth's surface is:
(a) mesosphere (b) stratosphere (c) thermosphere (d) troposphere

(vi) A group of gases that maintains temperature of atmosphere is:
(a) carbon dioxide and water vapours (b) nitrogen and carbon dioxide
(c) oxygen and water vapours (d) nitrogen and oxygen

(vii) Specific heat capacity of water is:
(a) $4.2kJg^{-1}K^{-1}$ (b) $4.2Jg^{-1}K^{-1}$ (c) $2.4kJg^{-1}K^{-1}$ (d) $2.4Jg^{-1}K^{-1}$

(viii) Water dissolves non-ionic compound by:
(a) ion-ion forces (b) ion-dipole forces (c) dipole-dipole forces (d) hydrogen bonding

(ix) Temporary hardness is because of:
(a) $Ca(HCO_3)_2$ (b) $CaCO_3$ (c) $MgCO_3$ (d) $MgSO_4$

(x) Crude oil is heated in the furnace upto:
(a) 300^oC (b) 350^oC (c) 400^oC (d) 450^oC

(xi) When heated crude oil is fed to the fractionating tower:
(a) vapours of higher boiling point fraction condens first in the lower part of the tower
(b) vapours of lower boiling point fraction condense first in the lower part of tower
(c) vapours of higher boiling point condense later in the upper part of tower
(d) vapours of higher boiling point never condense.

(xii) Which one of the following is used as jet fuel:
(a) kerosene oil (b) lubricating oil (c) fuel oil (d) diesel oil

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2- Write short answers of the following questions. (20)

(i) Write down two properties of disaccharides.
(ii) How plants synthesize carbohydrate?
(iii) How ozone layer is being depleted by chlorofluoro carbons?
(iv) What do you mean by green house effect?
(v) Ozone is beneficial for human life, justify.
(vi) Write causes of water pollution.
(vii) What are domestic effluents.
(viii) State carbonation of Ammonical brine.
(ix) What is calcination process?
(x) Write any two advantages of Solvay's process.

SUBJECTIVE PART

☆ **Answers the following questions with detail. (18)**

3- (a) Explain the sources and uses of proteins. (05)
(b) What is Ozone layer? How is it being depleted? (04)

4- (a) Explain four important waterborne diseases. (05)
(b) Explain the process of roasting with reference to copper. (04)

Test # 28	Chapter # 13 To 16	Second Half Book Paper No. 2	Time: 1 Hour

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. **(12)**

(i) Proteins make up ____ percentage of the dry weight of animal cell.
(a) 25 (b) 50 (c) 75 (d) 100

(ii) Which one is the simplest sugar which can not be hydrolyzed:
(a) Glucose (b) Sucrose (c) Starch (d) Cellulose

(iii) General formula of carbohydrates is:
(a) $C_{n-1}(H_2O)_n$ (b) $C_n(H_2O)_{n-1}$ (c) $C_n(H_2O)_n$ (d) $C_n(OH)_n$

(iv) The Earth's atmosphere is getting hoter because of:
(a) increasing concentration of CO (b) increasing concentration of CO_2
(c) increasing concentration of O_3 (d) increasing concentration of SO_2

(v) Which one of the followings is a Greenhouse Effect?
(a) increasing atmospheric temperature (b) increasing food chains
(c) increasing flood risks (d) increasing sea-level

(vi) Normally rain water is weakly acidic because of:
(a) SO_3 gas (b) CO_2 gas (c) SO_2 gas (d) SO_2 gas

(vii) Temporary hardness is removed by adding:
(a) quick lime (b) slaked lime (c) limestone (d) lime water

(viii) Permanent hardness is removed by adding:
(a) Na_2 zeolite (b) soda lime (c) lime water (d) quick lime

(ix) Which one of the following salts makes the water permanently hard?
(a) Na_2CO_3 (b) $NaHCO_3$ (c) $Ca(HCO_3)_2$ (d) $CaSO_4$

(x) Which one of the following is not fraction of crude oil?
(a) paraffin wax (b) asphalt (c) fuel oil (d) petroleum coke

(xi) Which one of the following is not a fraction of petroleum?
(a) kerosene oil (b) diesel oil (c) alcohol (d) petrol

(xii) The nitrogen present in urea is used by plants to synthesize:
(a) sugar (b) proteins (c) fats (d) DNA

✂---

2- Write short answers of the following questions. **(20)**

(i) Depending upon the nature of bonds, name the classes of hydrocarbons.
(ii) What is biochemistry?
(iii) How are oxides from nitrogen formed in internal combustion engine? Write chemical equation.
(iv) What is troposphere? Give its two charactersistics.
(v) Identify as primary or secondary air pollutants in the following.
(vi) Define leaching process.
(vii) What is dysentery?
(viii) Describe role of technology in the production of common chemicals.
(ix) What is Bessemerization?
(x) State roasting.

SUBJECTIVE PART

☆ **Answers the following questions with detail.** **(18)**

3- (a) Write down the sources and uses of carbohydrate. (05)
(b) Explain the effects of acid rain. (04)

4- (a) Write the properties of water. (05)
(b) Write a note on the importance of urea. (04)

Test # 29	Chapter # 9 To 16	Full Book Paper No. 1	Time: 2:30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

Q.1	Questions	(A)	(B)	(C)	(D)
(i)	Crude oil is heated in furnace upto:	300°C	350°C	400°C	450°C
(ii)	Which gas is used to destroy harmful bacteria in water?	Iodine	Chlorine	Flurine	Bromine
(iii)	Permanent hardness of water is removed by adding:	$Na_2 - Zeolite$	Soda lime	Lime water	Quick lime
(iv)	Acid rain effects the aquatic life by cloging fish gills due to:	Lead	Chromium	Mercury	Aluminium
(v)	Which is a fat soluble vitamin?	Vitamin A	Vitamin E	Vitamin K	All of these
(vi)	Deficiency of vitamin D causes disease:	Rickets	Scurvy	Anemia in babies	Night blindness
(vii)	Dehydration of alcohols is carried out with:	NaOH	KOH	H_2SO_4	HCl
(viii)	Pitch is a black residue of:	Coke	Coal tar	Coal	Coal gas
(ix)	Which one of the following is a Lewis base?	NH_3	BF_3	H^+	$AlCl_3$
(x)	_______ is used as drying agent for gases.	$CaCO_3$	NaCl	CaO	Na_2SiO_3
(xi)	When the magnitude of K_C is very large it indicates:	Reaction mixture consists of almost all products	Reaction mixture consists of almost all reactants	Reaction has not gone to completion	Reaction mixture has negligible products
(xii)	Guldberg and Waage put forward the law of mass action in:	1859 A.D	1869 A.D	1879 A.D	1889 A.D

Marks : 48 ☆ **Subjective (Part-I)** ☆ **Time: 01:45**

2. Write short Answers of any five part. (5 × 2 = 10)

(i) Define static equilibrium. Give an example. (ii) Write two characteristics of irreversible chemical reaction.
(iii) If $Q_C < K_C$ then predict the direction of chemical reaction.
(iv) Write the formula of Aluminium hydroxide. (v) Write two uses of calcium hydroxide.
(vi) Define hyperacidity. (vii) Define acid and base according to Lewis concept.
(viii) How are salts prepared by the reaction of acid and metal?

3. Write short Answers of any five part. (5 × 2 = 10)

(i) Define structural formula and give an example.
(ii) Write down the name and formulae of two heterocyclic compounds.
(iii) Define Isomerism. (iv) Write two physical properties of Alkenes.
(v) Write down two sources of Alkanes.
(vi) Differentiate between glucose and fructose with the help of structure.
(vii) What is the function of DNA? (viii) Differentiate between oil and fats.

4. Write short Answers of any five part. (5 × 2 = 10)

(i) Write two effects of global warming. (ii) What do you mean by pollutants?
(iii) What is Ozone? (iv) Differentiate between soft and hard water.
(v) Why are pesticides used? (vi) What is meant by minerals?
(vii) Define Smelting. (viii) Write any two fractions of residual oil.

☆ SUBJECTIVE (Part-II) ☆

Attempet any two Questions. Each question has 9 marks. **9 × 2 = 18**

5. **(a)** Derive equilibrium constant expression for a general reversible chemical reaction.
(b) Write four specific characteristics of bases.
6. **(a)** Write down five physical properties of Alkanes. **(b)** Write a note on monosaccharides.
7. **(a)** What is fractional distillation? Describe fractional distillation of petroleum.
(b) Water is a universal solvent. Explain it.

Test # 30	Chapter # 9 To 16	Full Book Paper No. 2	Time: 2:30 Min

	A	B	C	D		A	B	C	D		A	B	C	D
1.	○	○	○	○	5.	○	○	○	○	9.	○	○	○	○
2.	○	○	○	○	6.	○	○	○	○	10.	○	○	○	○
3.	○	○	○	○	7.	○	○	○	○	11.	○	○	○	○
4.	○	○	○	○	8.	○	○	○	○	12.	○	○	○	○

1- Fill the box of correct answer in this manner that the ink is not come out from the box. (12)

Q.1	Questions	(A)	(B)	(C)	(D)
(i)	Temporary hardness is because of:	$MgSO_4$	$MgCO_3$	$CaCO_3$	$Ca(HCO_3)_2$
(ii)	Crude oil is heated in the furance upto:	350°C	300°C	450°C	400°C
(iii)	The colour of I_2 gas is:	Blue	Green	Purple	Red
(iv)	If $Q_C < K_C$ what will be the direction of reaction:	Forward	Reverse	Equilibrium state	Speed up gradually
(v)	Which aicd found in apple?	Utric acid	Formic acid	Citric acid	Mallic acid
(vi)	The conjugate because of sulphuric acid:	SO^{2-}	S^{2-}	HSO_4^-	HSO_3^-
(vii)	In laboratory urea was prepared by:	Wholer	Rutherford	Berzellius	Dalton
(viii)	Oxidation of alkenes produces.	Glyoxal	Glycol	Oxalic aicd	Formic acid
(ix)	Which one of the following is tasteless?	Sucrose	Fructose	Starch	Glucose
(x)	Night blindness is because of deficiecy of:	Vitamin A	Vitamin C	Vitamin D	Vitamin E
(xi)	Just above the earth' surface is:	Mesophere	Stratosphere	Thermosphere	Troposphere
(xii)	Specific heat capacity of water is:	$4.2KJg^{-1}K^{-1}$	$4.2\ Jg^{-1}K^{-1}$	$2.4\ KJg^{-1}K^{-1}$	$2.4\ Jg^{-1}K^{-1}$

Marks : 48 ☆ Subjective (Part-I) ☆ Time: 01:45

2. Write short Answers of any five part. (5 × 2 = 10)

(i) Why reversible reactions never complete?
(ii) What do you mean by equilibrium constant?
(iii) What represents the very small value of K_C for a reaction?
(iv) What is static equilibrium? Explain with an example.
(v) Write two limitations of Arrhenious concept.
(vi) Write two physical properties of acids.
(vii) Write two uses of pH.
(viii) What are mixed salts?

3. Write short Answers of any five part. (5 × 2 = 10)

(i) Define isomerism.
(ii) How carbon completes its octet?
(iii) What is destructive distillation?
(iv) Write down two uses of methane.
(v) Write two physical properties of Alkynes.
(vi) Write down the general formula of amino acid.
(vii) What are advatnages of fats solulbe vitamins?
(viii) How is gelatin obtained?

4. Write short Answers of any five part. (5 × 2 = 10)

(i) Name the different spheres of atmosphere.
(ii) What is green house effect.
(iii) Define Acid rain.
(iv) What do you mean by Fluorosis?
(v) Why non-polar compounds are insoluble in water?
(vi) What are Minerals?
(vii) Write two uses of Kerosene oil.
(viii) What is fractional distillation?

☆ SUBJECTIVE (Part-II) ☆

Attempet any two Questions. Each question has 9 marks. **9 × 2 = 18**

5. (a) Describe five macroscopic characteristics of dynamic equilibrium.
(b) Describe two methods for measuring pH of solution.

6. (a) Write five physical properties of Alkenes.
(b) Define Amino Acids, Amino Acids are building blocks of proetiens, explain.

7. (a) Write a detailed note on ammonia Solvay's Process.
(b) Give four effects of water pollution.

نَحْمَدُهٗ وَ نُصَلِّی عَلٰی رَسُوْلِہِ الْکَرِیْم

معزز اساتذہ کرام، السلام علیکم ورحمۃ اللہ! گزارش ہے کہ سٹوڈنٹس کو مطالعہ سے پہلے درج ذیل دعاؤں کو باقاعدگی سے پڑھنے کی ترغیب دیں۔ جزاک اللہ۔

عزیز طلباوطالبات، آپ سب بھی دعاؤں کا اہتمام ضرور کریں۔ اللہ تعالیٰ آپ سب کے اور اساتذہ کرام کے علم، زندگی اور ایمان میں برکت دے۔ آمین۔

ہمارے لیے بھی دعا کرتے رہیں۔ اللہ تعالیٰ ہم سب کے لیے دنیاو آخرت میں آسانیاں اور سکون نصیب فرمائے۔

بِسْمِ اللّٰہِ الرَّحْمٰنِ الرَّحِیْمِ ط

اللہ کے نام سے شروع جو رحمٰن ورحیم ہے۔

اَللّٰھُمَّ صَلِّ عَلٰی مُحَمَّدٍ وَّعَلٰٓی اٰلِ مُحَمَّدٍ کَمَا صَلَّیْتَ عَلٰٓی اِبْرٰھِیْمَ وَعَلٰٓی اٰلِ اِبْرٰھِیْمَ اِنَّکَ حَمِیْدٌ مَّجِیْدٌ ۝ اَللّٰھُمَّ بَارِکْ عَلٰی مُحَمَّدٍ وَّعَلٰٓی اٰلِ مُحَمَّدٍ کَمَا بَارَکْتَ عَلٰٓی اِبْرٰھِیْمَ وَعَلٰٓی اٰلِ اِبْرٰھِیْمَ اِنَّکَ حَمِیْدٌ مَّجِیْدٌ ۝

رَبِّ اشْرَحْ لِیْ صَدْرِیْ ۝ وَیَسِّرْ لِیْٓ اَمْرِیْ ۝ وَاحْلُلْ عُقْدَۃً مِّنْ لِّسَانِیْ ۝ یَفْقَھُوْا قَوْلِیْ ۝

رَبِّ زِدْنِیْ عِلْمًا۔ رَبِّ زِدْنِیْ عِلْمًا۔ رَبِّ زِدْنِیْ عِلْمًا۔

اَللّٰھُمَّ اِنِّیْٓ اَسْئَلُکَ عِلْمًا نَّافِعًا وَّرِزْقًا طَیِّبًا وَّ عَمَلًا مُّتَقَبَّلًا ۝

آخر میں درود شریف دوبارہ پڑھیں۔

اللہ تعالیٰ آپ کو جزا دے، آپ کے علم کے حصول میں آسانیاں عطا فرمائے۔